A bacterial rot of the tomato is also described in this bulletin. The bacteria were isolated from tomatoes which showed no sign of fungus growth. They were cultivated in pure culture and when reinoculated into the tomato fifty out of a total of sixty-seven inoculations produced the characteristic disease. There are thus two distinct diseases: a rot due to Fusarium and another rot due to bacteria.—F. L. STEVENS.

Root tubers of Dioscorea.—Some years ago QUÉVA described the vegetative organs of certain species of Dioscorea, and reached the conclusion that the tuberous body which occurs at the end of some of the roots represents an organ which has changed its nature from root to "something else." The matter was taken up by GOEBEL, who explains this peculiar body as an organ whose morphology lies between a shoot and a root. A much more simple and more natural explanation has recently been offered by LINDINGER,[18] who has studied *D. discolor*, and concludes that the roots do not change their morphological nature, but their function. The root consists of a slender, cylindric, basal portion, and a tuberous apical one, the former functioning as a nutritive, the latter as a storage root, which is also able to produce root-shoots. The anatomical structure of both regions is discussed, and it is interesting to notice that in the tuberous part the mestome strands are not arranged in a circle; that the inner mestome strands are collateral; and that, at least in some portions of the tuber, no endodermis is differentiated.—THEO. HOLM.

Secretory organs of Menispermaceae.—According to MAHEN,[19] these consist of ducts with tannin, ducts with caoutchouc, and secretory cells. Ducts with tannin occur in the cortex and pith of the stem, in the primary cortex of the root, in the parenchyma of the petiole, and in the midrib of the leaf. They are tubes of considerable length, and very often difficult to detect without tests for tannin; and are characteristic of certain species of Anamirta, Cocculus, Cissampelos, Burasaia, Calicocarpum, etc. Ducts with caoutchouc are known only in Tinomiscium, being found in all the vegetative organs as follows: in the stem, around the sclerenchymatic arches of the pericycle and in the pith; in the leaf, in midrib and petiole around the mestome strands. They are tubular and very thin walled. The latex is white and granulose, readily soluble in chloroform, but only partly so in absolute alcohol and ether. The secretory cells, observed only in *Abuta rufescens*, and containing an essence, abound in the stem near the sclerenchymatic pericyle on its outer and inner face.—THEO. HOLM.

A Linnean herbarium.—Although the herbarium of LINNAEUS went to London after his death, several other collections made by him and his pupils remained in Sweden, but have not been accessible until recently. In fact, it was not known

[18] LINDINGER, LEONHARD, Ueber den morphologischen Wert der an Wurzeln enstehenden Knollen einiger Dioscorea-Arten. Beih. Bot. Centralbl. 21:311. 1907.

[19] MAHEN, JACQUES, Sur les organes sécréteurs des Menispermacées. Bull. Soc. Bot. France 53:651. 1906.

where they were until the newly appointed curator of botany at the Swedish Academy, Professor C. A. M. LINDMAN,[20] discovered them among other bundles of plants stored away in "lumber rooms." These collections consist of the herbaria of CARL VON LINNÉ fil., ALSTROEMER, MONTIN, and SOLANDER, and contain many specimens named by LINNAEUS himself. These plants of LINNAEUS and his son, and from *Hortus Upsaliensis* during the lifetime of LINNAEUS, aggregate about 2000. They have been brought together as a "Herbarium Linnaeanum," and LINDMAN is now publishing a list of the species, arranged according to *Syst. Veget.* ed. 13 (1774) and *Suppl. Plant.* (1781).—THEO. HOLM.

Climate and plants.—H. VON GUTTENBERG[21] has made an anatomical and physiological study of the evergreen element of the Mediterranean flora, in part quite parallel to the studies which BERGEN has published in this journal and to some extent upon the same species. His work, however, was more extensive. It was done upon two islands, Lussin and Brioni Grande, near the Austrian coast of the Adriatic, and while his results as to transpiration do not always agree with BERGEN'S, their general drift is the same. The anatomical structure of the leaves is not of the extreme xerophilous type, because these plants must be able to take advantage of the more favorable conditions of spring and autumn, as well as to withstand the drought of summer. Thus, he finds the guard cells characterized by a special motility because of the "hinge" in the wall, so that they can prevent transpiration almost entirely by complete closure or allow it freely by wide opening. We may pe permitted some skepticism as to the perfection of this regulation, however.—C. R. B.

Anatomy of lianes.—FRIES[22] describes the anatomy of the stem and the aerial roots of a cucurbit, *Siolmatra brasiliensis*, with some notes on the mode of origin and form of the aerial roots of a species of Cissus, both occurring in the rain-forests of northern Argentina and southern Bolivia. Only two cases of the formation of aerial roots have been described among Cucurbitaceae, and in these the roots are small and known only in house-grown plants. But Siolmatra produces the long rope-like roots, reaching down from the tops of the highest trees, where the plant expands its foliage, to enter the ground and branch profusely. The most remarkable anatomical character of the stem is the presence of a secondary cambium in the pith, which produces groups of leptome and mechanical tissues on its inner face and groups of libriform cells on its outer face.—C. R. B.

---

[20] LINDMAN, C. A.M., A Linnaean herbarium in the Natural History Museum in Stockholm. Arkiv. för Botanik Roy. Swed. Acad. Stockholm **7**:no. 3. 1907.

[21] GUTTENBERG, H. VON, Anatomisch-physiologische Untersuchungen über das immergrüne Laubblatt der Mediterranflora. Engler's Bot. Jahrb. **38**:383–444. *pls. 7–9.* 1907.

[22] FRIES, ROB. E., Morphologisch-anatomische Notizen über zwei südamerikanische Lianen. Bot. Studier tillägnade F. R. KJELLMAN 89–101. Upsala. 1906.